Blakely, Sokoloff, Taylor & Zafman LLP   (310) 207-3800
Title: METHOD AND APPARATUS FOR ENABLING VOLATILE SHARED
DATA ACROSS CACHES IN A COHERENT MEMORY MULTIPROCESSOR
SYSTEM TO REDUCE COHERENCY TRAFFIC
1st Named Inventor: Kevin W. Rudd
Express Mail No.: EV339916330US   Docket No.: 42P18220
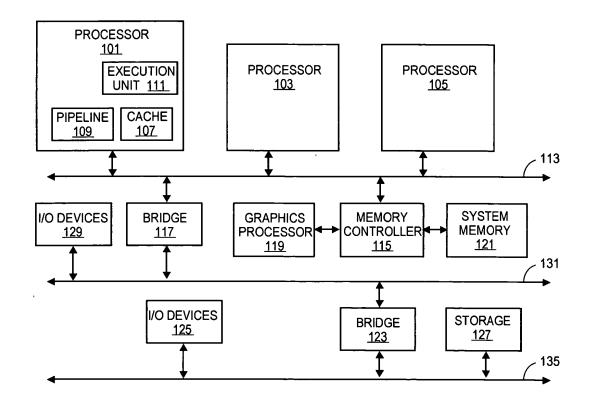Sheet: 1 of 5

FIG. 1

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FIG. 2

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STORE OR LOAD
A CACHE LINE — 301

MODIFY CACHE
LINE — 303

RECEIVE VOLATILE
LOAD REQUEST — 305

CHANGE STATE OF
CACHE LINE FROM
MODIFIED TO
MODIFIED VOLATILE — 307

SEND CACHE LINE
TO REQUESTER — 309

MODIFY NON-VOLATILE
PORTION OF CACHE
LINE — 311

SEND NOTIFICATION
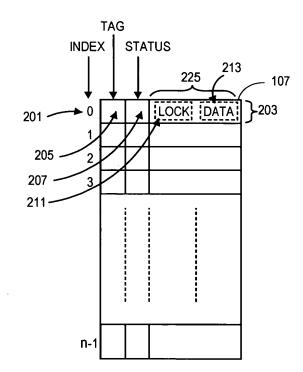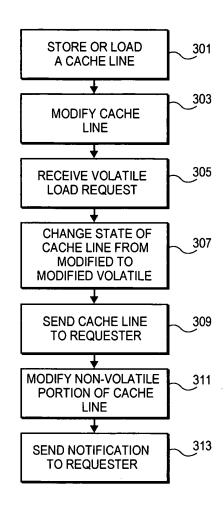TO REQUESTER — 313

FIG. 3

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```
┌─────────────────────┐
│   SEND VOLATILE     │⟋ 401
│   LOAD REQUEST      │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│  RECEIVE REQUESTED  │⟋ 403
│       DATA          │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│  STORE REQUESTED    │
│ DATA IN CACHE LINE  │⟋ 405
│    AS SHARED        │
│    VOLATILE         │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│   RECEIVE CACHE     │⟋ 407
│   LINE REQUEST      │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│      SEND           │⟋ 409
│   NOTIFICATION      │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│   REPLAY LOAD       │⟋ 411
│    OR STORE         │
└─────────────────────┘
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FIG. 4

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FIG. 5